

REMARKS

In accordance with the foregoing, claims 1, 4, 16, 17, 19, 21, and 22 are amended. No new matter is added. Claims 1-22 are pending and under consideration.

ALLOWABLE SUBJECT MATTER

Applicants acknowledge with appreciation the indication of allowable subject matter. However, since Applicants consider that amended claim 1, from which claims 4-7 and 15-20 depend, defines patentable subject matter, claims 4-7, 15 and 16 are maintained in dependent form at the present time.

CLAIM OBJECTIONS AND REJECTION UNDER 35 U.S.C §112

Claims 4, 16, 17, 19, and 22 have been objected to due to various informalities. The claims are amended herewith according to the Examiner's suggestions. Therefore, Applicants respectfully request the objections to be withdrawn.

Claims 19 has been rejected under 35 U.S.C. §112, second paragraph due to the recitation "said shared configurations." Claim 19 is amended herewith to clarify the claimed subject matter. In view of the claim 19 amendments, Applicants respectfully request the rejection to be withdrawn.

CLAIM REJECTION UNDER 35 U.S.C §103

Claims 1-3, 8-14, 21 and 22 are rejected under 35 U.S.C. §103 as allegedly being unpatentable over U.S. Patent Application Publication No. 2002/0109076 to Tochio et al. (hereinafter "Tochio") in view of U.S. Patent Application Publication No. 2002/0171902 to Berhane et al. ("Berhane").

Applicants respectfully submit that independent claim 1 as presented in the amendment filed on September 25, 2007, patentably distinguishes over the cited prior art at least by reciting

a resonance component removing section that removes a frequency component corresponding to a mechanical resonance action of changing the angle of any tilt mirror of the first and second mirror array, the frequency component being included in a control signal used for said feedback control, and **said resonance component removing section is shared at least by a pair of driving electrodes arranged in an axial direction of any tilt mirror.** (Emphasis ours for the features not taught or suggested by Tochio and/or Berhane.)

The Office Action submits that Tochio does not disclose the resonance component removing section as recited in claim 1 (see last 4 lines on page 3 and first 2 lines on page 4 of the outstanding Office Action) but relies on Berhane to provide the missing feature. Bernahe discloses a Finite Impulse Response filter for suppressing ringing in a mechanical component of an optical micro electro-mechanical switch (see "Summary of the Invention" section of Bernahe). The ringing which is a damped vibration is cancelled by applying electrical signals to the mechanical component (see e.g. claim 1 of Bernahe).

Applicants respectfully submit that Tochio and Bernahe alone or in combination do not teach or suggest that the "resonance component removing section **is shared at least by a pair of driving electrodes arranged in an axial direction of any tilt mirror.**" Accordingly, Applicants respectfully traverse, and request reconsideration of this rejection based on Tochio and Berhane.¹

Independent claim 1 is amended herewith to emphasize the difference from the cited prior art. The claim amendments are fully supported by the originally filed specification, for example, FIGS. 1, 4, 5 and their corresponding descriptions. In view of the amendments, claim 1 patentably distinguishes over the cited prior art by reciting:

a resonance component removing section that removes a frequency component corresponding to a mechanical resonance action of changing the angle of any tilt mirror of the first and second mirror array, the frequency component being included in a control signal used for said feedback control, and said resonance component removing section is shared at least by a pair of driving electrodes arranged in an axial direction of any tilt mirror, selectively removing the frequency component corresponding to the mechanical resonance action for at least one of the pair of driving electrodes.

Claims 2-20 depending directly or indirectly from claim 1, patentably distinguish over the cited prior art at least by inheriting patentable features from independent claim 1.

Independent claim 21 patentably distinguishes over Tochio and Berhane at least by reciting "removing a frequency component corresponding to a mechanical resonance action included in a control signal used for said feedback control, which is **commonly removed for at least a pair of driving electrodes arranged in a coaxial direction of said tilt mirror**" (emphasis ours for the features not rendered obvious by the cited prior art references).

¹ See MPEP 2142 stating, as one of the three "basic criteria [that] must be met" in order to establish a *prima facie* case of obviousness, that "the prior art reference (or references when combined) must teach or suggest all the claim limitations," (emphasis added). See also MPEP 2143.03: "All words in a claim must be considered in judging the patentability of that claim against the prior art."

Claim 21 is amended herewith to further emphasize the patentable distinction by reciting:

removing a frequency component corresponding to a mechanical resonance action included in a control signal used for said feedback control, which is removed for at least one of a pair of driving electrodes arranged in a coaxial direction of said tilt mirror using a same frequency removing device.

Independent claim 22 as presented in the amendment filed on September 25, 2007, patentably distinguishes over Tochio and Berhane at least by reciting "a resonance component removing section that removes a frequency component corresponding to a mechanical resonance from the feedback control signal, **provided to any one of the pair of driving electrodes arranged in a coaxial direction of said tilt mirror**" (emphasis ours for the features not rendered obvious by the cited prior art references).

Amended claim 22 further emphasizes the above argued patentable distinction by reciting:

a resonance component removing section that selectively removes a frequency component corresponding to a mechanical resonance from the feedback control signal, provided to the one of the pair of driving electrodes, the resonance component removing section being shared by driving electrodes of the pair of driving electrodes which are arranged in a coaxial direction of said tilt mirror.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

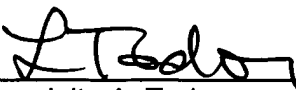
Serial No. 10/643,895

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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